# MINUTES OF MARCH 31, 1992 TRC MEETING

**TO:** NSB-NLON TRC Members

**FROM:** Paul Burgess, Project Manager
Atlantic Environmental Services, Inc.

**DATE:** May 28, 1992

**RE:** Technical Review Committee Meeting - March 31, 1992
Installation Restoration Study
Naval Submarine Base - New London
Groton, Connecticut
N62472-88-C1294
Atlantic Project No.: 1256-10-90

**ATTENDEES:**

The following people attended the meeting.

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| Barry Giroux | Atlantic Environmental Services, Inc. |
| Paul Burgess | Atlantic Environmental Services, Inc. |
| Katherine Fogarty | Menzie-Cura & Associates |
| John Bogdanski | Atlantic Environmental Services, Inc. |
| Peter Georgetti | Atlantic Environmental Services, Inc. |
| Paul Jameson | CTDEP |
| Paul Marchessault | USEPA Region I |
| Carol Keating | USEPA Region I |
| Dale Weiss | Alliance Technologies |
| Harold Bobowicz | CTDEP |
| Deborah Jones | Town of Groton |
| Norman Richards | City of Groton |
| Mark Leipert | Northern Division Naval Facilities Engineering Command |
| Ron Ochsner | Resident, Town of Ledyard |
| William Mansfield | Subase NLON |
| Chuck Maguire | CINCLANTFLT (N4423A) |
| Robert Jones | Subase NLON |
| LCDR Ruth Noonan | Submarine Group Two |
| Adrienne Townsel | Northern Division Naval Facilities Engineering Command |
| Robert Fromer | LEAF |
| Scott Heim | Alliance Technologies, Inc. |
| Susan Stoloff | Alliance Technologies, Inc. |
| Commander James Steger | Subase - NLON |

Commander Steger opened the meeting and welcomed all attendees.

Barry Giroux, Atlantic Principal Engineer, provided an overview of the Installation Restoration program status, a detailed presentation regarding the establishment of remedial action objectives for the four Step II sites (Area A, OBDA, DRMO, and Lower Subase), and a brief look at some of the technologies and alternatives being evaluated for use at NSB-NLON. Copies of the overheads used during the presentation were provided to all attendees. The presentation regarding remedial action objectives described how risk-based and ARAR-based remedial action objectives were established for each site. Based on these objectives, sites that may require remediation were described as to their location and size.

During and following Atlantic's presentation, the following comments were made by TRC members. Responses provided at the meeting, or based on subsequent evaluations, are included.

**Comment:** Dale Weiss stated it is the USEPA's policy to use the Summers Model to predict soil cleanup target levels based on the hazards due to leaching of hazardous constituents from soil to ground water.

**Response:** Barry Giroux (Atlantic) stated that both the Summers Model and a model developed by Electric Power Research Institute (EPRI) were used.

**Comment:** Robert Fromer suggested that probabilistic methods be used to calculate risk similar to those used to predict the reliability of mechanical components.

**Response:** Paul Burgess (Atlantic) indicated that Atlantic will evaluate his comment and respond in the meeting minutes.

Based on supplemental reference information provided by Mr. Fromer, the probabilistic methods he was referring to are known as Monte Carlo techniques. While many risk assessment professionals presently advocate the use of Monte Carlo techniques to more realistically predict risks, use of these methods at Superfund sites is not endorsed by the USEPA Region I. For this method to be applied correctly, the range and distribution of each input variable must be known. In addition, all input parameters either must be independent or their covariance must be accounted for. If the variables are not independent but assumed to be so, excessive error may result. Finally, a Monte Carlo simulation will not necessarily define the maximum exposure that will reasonably be expected to occur. It will only generate combinations of values from distributions that have been input, with no application of the sound judgement that is needed to determine the reasonable maximum exposure.

**Comment:** Dr. Richards suggested that a model be used to predict the location where ground water discharges to the Thames River. Locations identified in this manner would be the proper locations for sampling to assess biological impacts to the Thames River from contaminated ground water.

**Response:** Paul Burgess (Atlantic) indicated that use of such a model will be considered during development of future work plans regarding ecological impacts to the Thames River to address this comment.

**Comment:** Paul Marchessault (USEPA) questioned why the feasibility study (FS) was proceeding to the extent it has in light of the lack of data regarding several issues, such as data to establish ecological based remediation cleanup standards, and data regarding colloidal metals in ground water. He suggested that it may make sense to finalize a FS for a particular operable unit or site rather than to prepare one FS for all the sites. This approach will allow a particular site where there is adequate data to proceed to the remediation stage rather than being held back by the lack of data at another site.

**Comment:** Dale Weiss expressed his concern that the sampling density in DRMO is not adequate to define the extent of lead contaminated soils.

**Comment:** Paul Marchessault again questioned the validity of proceeding with the FS when the extent of contamination has not been completely defined. He also asked whether the FS produced would be a Phase I FS or a final FS.

**Comment:** Carol Keating suggested that as an alternative to preparing Phase I and Phase II FS, that the Navy proceed with focused FS on an operable unit basis.

**Comment:** Carol Keating asked what the timing of the FS is at this time. The EPA is concerned that the Navy may be taking three to four giant steps backwards as they wait for additional data.

**Response:** There was significant discussion regarding these comments at the meeting with no definitive resolutions. The Navy indicated that they felt it was prudent to have proceeded with the FS, in order to begin evaluating remedial alternatives, and avoid delays in the project.

The Navy has further assessed these comments subsequent to the meeting. The Navy is proceeding with the preparation of an internal working draft FS. However, this report will not be published until supplemental field investigation work plans for Step II sites are produced, agreed upon, implemented, and data obtained. At that point in time, the FS report will be finalized and submitted to the TRC.

**Comment:** Dr. Richards questioned whether or not the risk assessment for DRMO considered the exposure to infants and children of potentially contaminated soils on clothing that workers bring home.

**Response:** Paul Burgess (Atlantic) indicated that Atlantic will check with Dr. Menzie regarding this question and respond in the meeting minutes.

Dr. Menzie indicated that the scenarios evaluated did not consider this potential exposure pathway, however, a child's exposure in a household will be less than that of the exposed worker. This type of exposure pathway is difficult to quantify in that standard exposure assumptions have not been established by the USEPA.

**Comment:** Dr. Richards asked how the risk assessment evaluated the different PCB aroclors.

**Response:** Paul Burgess (Atlantic) indicated that Atlantic will check with Dr. Menzie regarding this question and respond in the meeting minutes.

Based on subsequent discussion with Dr. Menzie, the risk assessment used risk levels for the aroclor 1260, which was the only aroclor detected.

**Comment:** Dr. Richards questioned whether or not the new sediment quality criteria would be used to evaluate ecological risks in the Thames River.

**Response:** Paul Burgess indicated that Atlantic would contact him prior to preparation of a supplemental Step II work plan to evaluate site impacts to the Thames River to discuss the sediment quality criteria. This information and criteria will be considered in preparation of the work plan and subsequent evaluations of data generated, if appropriate.

**Comment:** Dale Weiss asked if the process options were evaluated on a site-by-site basis.

**Response:** Barry Giroux answered that the process options were evaluated on a media-specific basis considering the contaminants present at each site.

**Comment:** Robert Fromer asked whether or not process options that convert contaminated soils into a concrete block have been evaluated.

**Response:** Barry Giroux responded that stabilization process options are being evaluated and that some stabilization processes produce a solid block of treated materials.

**Comment:** Paul Marchessault questioned the effectiveness of a ground water recovery system for contaminants in fractured bedrock.

**Response:** Barry Giroux agreed that such a recovery system will probably not be effective in removing all contaminants, but that it may be successful in preventing the migration of contaminants.

**Comment:** Dale Weiss stated that evaluating ground water recovery and treatment alternatives is premature as ground water has not been analyzed for non-filtered metals.

**Response:** This comment was noted and future ground water analysis will be conducted for dissolved and non-filtered metals.